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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,441	01/23/2004	Masahiro Umewaka	S008-P04004US	6833

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EXAMINER	
LE, LANA N	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/763,441	UMEWAKA ET AL.	
	Examiner	Art Unit	
	Lana N. Le	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Rumpt (US 6,922,550) in view of Patterson et al (US 6,356,197).

Regarding claim 1, van Rumpt discloses a damping circuit (fig. 1) having an amplitude-varying function comprising:

a coil (L);

a capacitor (C), and

a resistance-adjusting element (R) connected in parallel to said coil (L); and said capacitor (C) for varying resistance at time of resonance of said tuning circuit (col 7, lines 11-40), wherein an amplitude of an output signal of said tuning circuit is varied by varying said resistance with said resistance-adjusting element (col 5, lines 28-36). Van Rumpt do not disclose a tuning circuit. Patterson et al disclose a tuning circuit comprising an LC circuit (3; fig. 3) which varies the resonance frequency and a variable resistive element (col 6, lines 15-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the circuit of van Rumpt be a

tuning circuit in order to tune to a precise resonant frequency by adjusting the Q factor of the resonance circuit as suggested by Patterson et al (col 1, lines 36-41; col 10, lines 3-7).

Regarding claim 2, van Rumpt and Patterson et al disclose a tuning circuit having an amplitude-varying function according to claim 1, wherein van Rumpt discloses the resistance-adjusting element (R) comprises an inherent transistor, the resistance-adjusting element varying a voltage applied to a control electrode of said transistor (input to R from control signal of circuit 3, 4) in order to vary said resistance (col 7, lines 18-35).

Regarding claim 3, van Rumpt and Patterson et al disclose wherein the tuning circuit having an amplitude-varying function according to claim 1, wherein van Rumpt discloses the resistance-adjusting element (R) comprises an inherent transistor, the resistance-adjusting element switching ON and OFF said transistor (via switching control signal from excitation circuit 3) in order to vary said resistance (col 7, lines 18-35).

Regarding claim 5, van Rumpt and Patterson et al disclose the tuning circuit having an amplitude-varying function according to claim 1, wherein van Rumpt discloses a predetermined reference voltage (from Vcc; fig. 1) is applied to respective ends of said coil (L) and of said capacitor (C) making up said circuit, wherein an alternating current signal (from excitation circuit 3) resonated by said LC circuit is outputted from other ends (antenna A) of said coil (L) and of said capacitor (C). Van Rumpt discloses wherein an alternating current signal resonated by said tuning circuit is

outputted from other ends of said coil and of said capacitor (col 5, lines 12-23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an alternating current when there's an excessive received signal in the tuning circuit of Patterson et al resonated by the tuning circuit in order to provide a dominating current signal when part of the excitation current signal is in excess of the threshold current level in the resonance circuit during excitation periods as suggested by van Rumpt (col 5, lines 12-23).

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over van Rumpt (US 6,922,550) in view of Patterson et al (US 6,356,197) and further in view of Dykema et al (US 5,699,055).

Regarding claim 6, van Rumpt and Patterson et al disclose the tuning circuit having an amplitude-varying function according to claim 1, wherein van Rumpt and Patterson et al do not disclose the tuning circuit having respective ends of said coil and of said capacitor making up said tuning circuit are grounded, and wherein an alternating current signal resonated by said tuning circuit is outputted from other ends of said coil and of said capacitor. Dykema et al disclose the tuning circuit having respective ends of said coil (122) and of said capacitor (126, 128) making up said tuning circuit are grounded, and wherein an alternating current signal resonated by said tuning circuit is outputted from other ends of said coil and of said capacitor (fig. 6B; col 6, lines 1-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to ground the capacitor and coil in order to provide a variable resonant circuit via a resistor coupled to a voltage control terminal as suggested by Dykema et al.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morijiri et al (publication titled "A Wireless Communication System Suitable for Excessive Received Signal by Using New Damp Circuits) in view of Patterson et al (US 6,356,197).

Regarding claim 1, Morijiri et al disclose a damping circuit (figs. 2, 3) having an amplitude-varying function comprising:

a coil (Lsub2);

a capacitor (Csub2), and

a resistance-adjusting element (RsubL, MsubD1) connected in parallel to said coil (Lsub2);and said capacitor (Csub2) for varying resistance at time of resonance of said tuning circuit, wherein an amplitude of an output signal of said tuning circuit is varied (amplitude change according to Q factor which varies the RsubL) by varying said resistance with said resistance-adjusting element (para. 2.1).

Morijiri et al do not disclose a tuning circuit. Patterson et al disclose a tuning circuit comprising an LC circuit (3; fig. 3) which varies the resonance frequency and a variable resistive element (col 6, lines 15-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the circuit of Morijiri et al be a tuning circuit in order to tune to a precise resonant frequency by adjusting the Q factor of the resonance circuit as suggested by Patterson et al (col 1, lines 36-41; col 10, lines 3-7).

Regarding claim 2, Morijiri et al and Patterson et al disclose a tuning circuit having an amplitude-varying function according to claim 1, wherein Morijiri et al disclose the resistance-adjusting element (RsubL, MsubD1) comprises a transistor (MsubD1; figs. 2, 3), the resistance-adjusting element varying a voltage (VsubGS) applied to a control electrode (gate) of said transistor (MsubD1) in order to vary said resistance (para. 2.1).

Regarding claim 3, Morijiri et al and Patterson et al disclose wherein the tuning circuit having an amplitude-varying function according to claim 1, wherein Morijiri et al disclose the resistance-adjusting element (RsubL, MsubD1 comprises a transistor (MsubD1), the resistance-adjusting element switching ON and OFF said transistor (transistor MsubD1 inherently operates as on/off switch via control signal into gate of transistor) in order to vary said resistance (para. 2.1).

Regarding claim 4, Morijiri et al and Patterson et al disclose the tuning circuit having an amplitude-varying function according to claim 3, wherein Morijiri et al disclose the tuning circuit further comprising an automatic adjustment circuit system (level shift, comparator, RS flip flop; fig. 3) that includes a comparator (hysterisis comparator [1]) that varies an output when said amplitude of said output signal of the tuning circuit exceeds an automatic adjustment-use reference amplitude level (output voltage is written according to the amplitude of an input signal; para. 3, equation 7); and

a transistor drive-use digital circuit (MsubD1) that outputs, in response to said variance in said output of said comparator (hyste. comparator), a digital drive signal

(output signal from RS flip flop) for varying said voltage applied to said control electrode (gate of MsubD1) of said transistor (MsubD1) (para. 3).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morijiri et al (publication titled "A Wireless Communication System Suitable for Excessive Received Signal by Using New Damp Circuits) in view of Patterson et al (US 6,356,197) and further in view of van Rumpt (US 6,922,550).

Regarding claim 5, Morijiri et al and Patterson et al disclose the tuning circuit having an amplitude-varying function according to claim 1, wherein Morijiri et al disclose a predetermined reference voltage (reference voltage) is applied to respective ends of said coil (Lsub2) and of said capacitor (Csub2) making up said tuning circuit. Morijiri et al and Patterson et al do not disclose wherein an alternating current signal resonated by said tuning circuit is outputted from other ends of said coil and of said capacitor. Van Rumpt discloses an alternating current signal (from excitation circuit 3) resonated by said LC circuit is outputted from other ends (upward and via antenna A) of said coil (L) and of said capacitor (C) (col 5, lines 12-23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an alternating current when there's an excessive received signal in the tuning circuit of Morijiri et al and Patterson et al resonated by the tuning circuit in order to provide a dominating current signal when part of the excitation current signal is in excess of the threshold current level in the resonance circuit during excitation periods as suggested by van Rumpt (col 5, lines 12-23).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morijiri et al (publication titled "A Wireless Communication System Suitable for Excessive Received Signal by Using New Damp Circuits) in view of Patterson et al (US 6,356,197) and further in view of Dykema et al (US 5,699,055).

Regarding claim 6, Morijiri et al and Patterson et al disclose the tuning circuit having an amplitude-varying function according to claim 1, wherein Morijiri et al and Patterson et al do not disclose the tuning circuit having respective ends of said coil and of said capacitor making up said tuning circuit are grounded, and wherein an alternating current signal resonated by said tuning circuit is outputted from other ends of said coil and of said capacitor. Dykema et al disclose the tuning circuit having respective ends of said coil (122) and of said capacitor (126, 128) making up said tuning circuit are grounded, and wherein an alternating current signal resonated by said tuning circuit is outputted from other ends of said coil and of said capacitor (fig. 6B; col 6, lines 1-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to ground the capacitor and coil in order to provide a variable resonant circuit via a resistor coupled to a voltage control terminal as suggested by Dykema et al.

7. An English translation of the foreign priority is required to overcome the U.S.C. 103 rejection over Morijiri et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N. Le whose telephone number is (571) 272-7891. The examiner can normally be reached on M-F 9:30-18:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lana N. Le
04-16-06

Lana Le

LANA LE
PRIMARY EXAMINER